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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/042,567

11/20/2001

Roger C. Williams

BIWLOWF

6838

7590

06/24/2004

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EXAMINER

HARVEY, JAMES R

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/042,567

Applicant(s)

WILLIAMS, ROGER C.

Examiner

James R. Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

***Drawings***

- Figure(s) 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

- The drawings are objected to because the cross-hatching is improper. See MPEP 608.02.

For example, portions of the drawings in section and made of an insulated material must be crosshatched with alternating thick and thin lines, not with just thin lines.

- The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims.

-- In reference to Claim(s) 3, (line(s) 6 and 8 ) the recitation "base" has not been assigned an element number.

-- In reference to Claim(s) 13, the recitations "a set" (line(s) 2 ) and "a second end" (line(s) 5 ) is/are not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention.

--- In reference to Claim(s) 14, the recitations "distal end" (line(s) 5 ) and "progressive" (line(s) 7 ) is/are not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention.

-- In reference to Claim(s) 15, the recitations "said distal end" (line(s) 6 ) is not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention.

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- The above feature(s) must be shown or the feature canceled from the claim. No new matter should be entered.
- Please note that drawing corrections will no longer be held in abeyance. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application.
- If drawing correction are not submitted with the response to this office action, the response will be consider a Non-Responsive Reply and the following paragraph will apply:

The reply filed on ( ... ) is not fully responsive to the prior Office Action because: (...) Since the period for reply set forth in the prior Office action has expired, this application will become abandoned unless applicant corrects the deficiency and obtains an extension of time under 37 CFR 1.136(a).

The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. In no case may an applicant reply outside the SIX (6) MONTH statutory period or obtain an extension for more than FIVE (5) MONTHS beyond the date for reply set forth in an Office action. A fully responsive reply must be timely filed to avoid abandonment of this application.

### *Claim Objections*

- Claim(s) 1-17 is/are objected to because of the following informalities:
  - In reference to Claim(s) 1-3 and 6, the recitation “undercut portion” is vague and indefinite because the term “undercut” is associated with the method of forming the device which is not germane to the issue of patentability in a apparatus claim. For purposes of examination, it is assumed that the language is intended to mean “recessed portion”. An examination based on the merits, as best understood, is addressed below.

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-- In reference to Claim(s) 2 and 4, the recitation "a high yield strength electrically conducting material" is vague and indefinite because all metal contacts that can deflection and recover from the deflection are considered to be "a high yield strength electrically conducting material". For purposes of examination, it is assumed that the language is intended to mean "a deflecting segment". An examination based on the merits, as best understood, is addressed below.

-- In reference to Claim(s) 3, the recitation "a base" (line(s) 6 and 8 ) causes confusion because the recitation (line(s) 8) requires the second stage 26 to be at the base and the first stage 23 to be proximate (line(s) 6 ) the base. This is inconsistent with the specification (page 20) that indicates that the first stage 23 is proximate the base and that the second stage 26 is intermediate between the tip 21 and the first stage 23. For purposes of examination, it is assumed that the language is intended to mean the latter. An examination based on the merits, as best understood, is addressed below.

-- In reference to Claim(s) 4, 16, and 17, the recitation "means" is vague and indefinite because applicant is required to particularly pointing out and distinctly claim the subject matter which the applicant regards as his invention. The specification never particularly points out nor defines what applicant distinctly intends to claim with the claim language "means". The ordinary meaning of means is to design or intend for a certain purpose or end: *a building that was meant for storage*.<sup>1</sup>

All buildings have the structure that shows that they are intended for storage; in the same manner, any connector that has the structure claimed shows that they are intended for receiving a pin that is not inserted parallel to the longitudinal axis of the socket.

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<sup>1</sup> *The American Heritage® Dictionary of the English Language, Third Edition* copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction

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Further, the intended use of an item carries little or no patentable weight, since it has been held a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

For purposes of examination, it is assumed that any reference that shows the same claimed structure makes the recitation “means” unpatentable. An examination based on the merits, as best understood, is addressed below.

-- In reference to Claim(s) 10, the recitation “patch of material includes an inside diameter” is vague and indefinite because the patch 30 (figure 5 of applicant's drawings ) has only been defined in the specification (page 23) or drawings as a protrusion or boss that contacts the mating pin contact. For purposes of examination, it is assumed that the language is intended to mean “at least two of the patches of the tines define an inside diameter”.

-- Appropriate response to the above is required.

### ***Claim Rejections - 35 USC § 112***

- The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claim(s) 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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-- In reference to Claim(s) 13, the recitations "a set" (line(s) 2 ) and "a second end" (line(s) 5 ) is/are not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention. For purposes of examination, it is assumed that the language is intended to mean a gap. An examination based on the merits, as best understood, is addressed below.

-- In reference to Claim(s) 14, the recitations "distal end " (line(s) 5 ) and "progressive" (line(s) 7 ) is/are not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention. For purposes of examination, it is assumed that the language is intended to mean "a curved portion". An examination based on the merits, as best understood, is addressed below.

-- In reference to Claim(s) 15, the recitations "said distal end" (line(s) 6 ) is not defined in the specification nor assigned an element number in the drawings to make the public aware of the meets and bounds of applicants claimed invention. For purposes of examination, it is assumed that the language is intended to mean that the distal end is (near the lead line of numeral 16 of applicant's figure 4. An examination based on the merits, as best understood, is addressed below.

-- Appropriate correction of the above is required.

### ***Claim Rejections - 35 USC § 102***

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

\*\* Claim(s) 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Frommer et al. (5599213).

-- In reference to Claim(s) 1, Frommer shows (cover sheet) a low force electrical contact 20 of the type in which a socket 24 is provided that includes a plurality of tines 22, each the plurality of tines adapted to extend radially away from center, wherein the improvement has:

a patch 2 proximate a tip included with each the plurality of tines, the patch having a thickness that is greater than an adjoining undercut portion (near the lead line of numeral 30 (figure 4 ) ).

-- In reference to Claim(s) 2, Frommer shows (cover sheet) forming at least a portion of each of the plurality of tines has a deflection segment and including with each of the plurality of tines a portion proximate a tip, the portion having a thickness that is greater than an adjoining undercut portion.

-- In reference to Claim(s) 3, Frommer shows (see examiner's figure)

providing at each of the plurality of tines 22 a first stage proximate a base that includes a first inner diameter and a second stage that is disposed intermediate between a tip and the first stage and where the second stage includes a second inner diameter at the one end thereof that is greater than the first inner diameter and wherein each of the plurality of tines includes a patch proximate ~~a~~ the tip, the patch having a thickness that is greater than an adjoining undercut portion.

-- In reference to Claim(s) 4, Frommer shows (cover sheet)



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a socket 20;

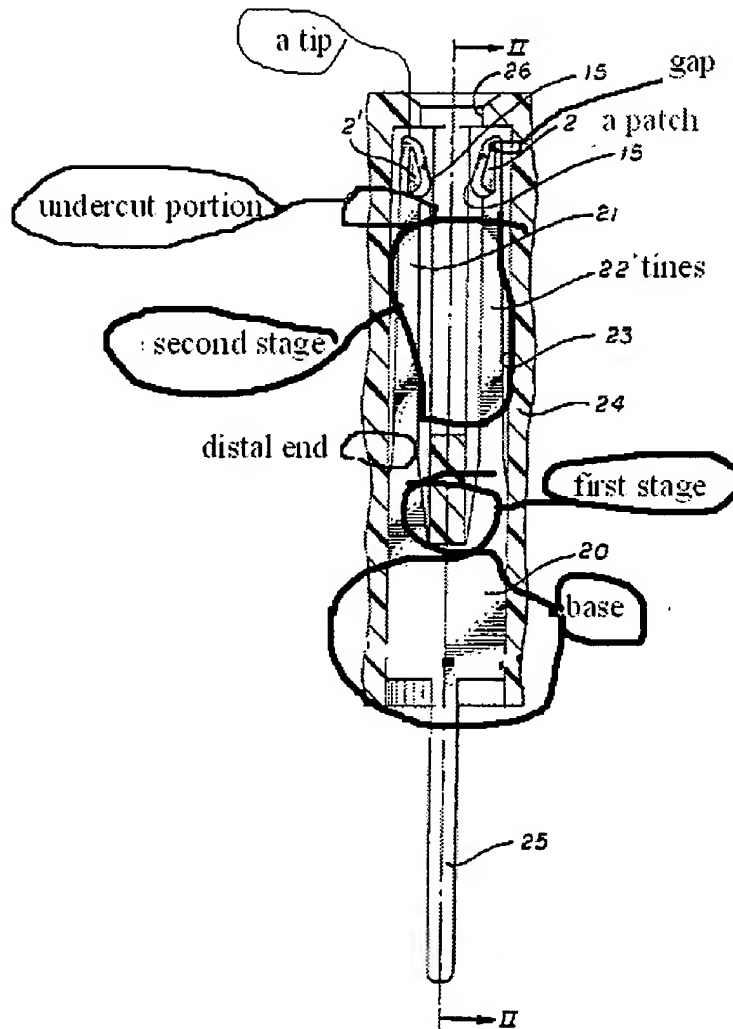
a plurality of tines 22 disposed in the socket, at least a portion of each of the tines formed of a high yield strength of metal;

means (the chamfer near the lead line of numeral 26 ) for receiving a pin in the socket wherein the pin includes a first center longitudinal axis that is not in parallel alignment with a second center longitudinal axis of the socket, and

means 25 for electrically connecting a wire to the socket 20.

-- In reference to Claim(s) 5, Frommer shows (see examiner's figure) each of the tines 22 includes a first stage and a second stage, the first stage having a first wall thickness that is thicker than a second wall thickness of the second stage that is disposed proximate to the first stage and which extends therefrom toward a tip of each tine.

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-- In reference to Claim(s) 6, Frommer shows the means for receiving a pin in the socket includes providing an undercut portion (see examiner's figure) in each of the tines a predetermined distance from the tip.

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-- In reference to Claim(s) 7, Frommer shows (see examiner's figure) the undercut portion extends to the first stage.

-- In reference to Claim(s) 8, Frommer shows (see examiner's figure) each of the tines includes a patch of material that is adapted to contact a pin, the patch being disposed intermediate the tip and the undercut portion.

-- In reference to Claim(s) 9, Frommer shows (see examiner's figure) the patch of material includes a greater thickness of material than the undercut portion.

-- In reference to Claim(s) 10, Frommer shows the patch of material includes at least two of the patches of the tines define an inside diameter that is less than an inside diameter of the undercut portion.

-- In reference to Claim(s) 11, Frommer shows (cover sheet) each of the plurality of tines is adapted to extend radially away from a center longitudinal axis.

-- In reference to Claim(s) 12, Frommer shows (cover sheet) each of the plurality of tines is adapted to make contact with the pin along a portion of the longitudinal length of each of the plurality of tines proximate a tip of each of the tines when the pin is inserted into the socket.

-- In reference to Claim(s) 13, Frommer shows (see examiner's figure) a gap.

-- In reference to Claim(s) 14, Frommer shows (see examiner's figure) each of the plurality of tines have curved portions (at the patch shown in the examiner's figure)).

-- In reference to Claim(s) 15, Frommer shows (cover sheet) the socket 20 includes a hood 24 having a predetermined inside diameter that surrounds the plurality of tines, and wherein when a pin is mated inside of the socket, the plurality of tines extend radially outward a greater amount at the tip than at the distal end (see examiner's figure), and wherein a gap (see examiner's figure)

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that exists intermediate the plurality of tines and the inside diameter of the hood is substantially identical along the longitudinal length of the plurality of tines.

-- In reference to the functional language "when a pin is mated", Frommer shows the same structure and can function in the same intended use.

-- In reference to Claim(s) 16, Frommer shows (cover sheet) the means (chamfer near the lead line of numeral 26 ) for receiving a pin in the socket is adapted to accommodate an angular misalignment of a first center longitudinal axis of the pin with respect to a second center longitudinal axis of the socket.

-- In reference to the recitation "adapted to" Frommer shows the claimed structure and is "adapted to" perform the same intended use.

### ***Claim Rejections - 35 USC § 103***

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

\*\* Claim(s) 17 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Frommer et al..

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-- In reference to Claim(s) 17, Frommer shows substantially the invention as claimed.

However, Frommer does not show the angular misalignment is equal to or less than three degrees in magnitude.

The three degree angle is seen to be a function of the chamfer angle (near the lead line of numeral 26 (cover sheet) of Frommer and the thickness of the wall of the hood 24 of Frommer.

Further, the particular dimensions of the three degrees, to the extent that Frommer does not specify exact dimensions, at the time of the invention, workable dimensions of the three degrees would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the distance would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

One skilled in the art would be motivated to experiment with the wall thickness and chamfer of Frommer to the three degree angle in order to prevent scratching off the precious metal (i.e. gold) plating on contacts associated with air bags and brakes on automobiles.

### *Conclusion*

Effective May 1, 2003, the United States Patent and Trademark Office has a new Commissioner for Patents address. Correspondence in patent related matters must now be addressed to:

**Commissioner for Patents  
P. O. Box 1450**

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**Alexandria, VA 22313-1450**

For additional information regarding the new address, see Correspondence with the United States Patent and Trademark Office, 68 Fed. Reg. 14332 (March 25, 2003).

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- The prior art listed on PTO form 892 that is made of record and not relied upon is considered pertinent to applicant's disclosure because it shows the state of the art with respect to applicant's claimed invention for misalignment of the pin and socket.

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to James R. Harvey whose telephone number is 703-305-0958. The examiner can normally be reached on 8:00 A.M. To 5:00 P.M.

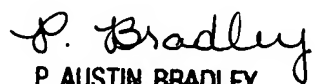
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800 extension 33.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.

- Effective **October 1, 2003**, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, **(703) 872-9306**, with a few exceptions. See *Fax Automation in Technology Center 1700*, 1237 Off. Gaz. Pat. Office 140 (August 29, 2000). Replies to Office actions including after-final amendments that are transmitted by facsimile must be directed to the central facsimile number.

James R. Harvey, Examiner

Jrh  
June 16, 2004

  
P. AUSTIN BRADLEY  
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TECHNOLOGY CENTER 2800